

CLAIMS

1. An optical element, comprising:

at least two laminated circular-polarization-type-reflection polarizers (a) whose wavelength bands for selective reflection of polarized light overlap one another, wherein

5 the at least two circular-polarization-type-reflection polarizers (a) each have a side capable of selectively reflecting a relatively short wavelength in the wavelength bands for selective reflection, and

10 the sides of said at least two circular-polarization-type-reflection polarizers (a) capable of selectively reflecting the relatively short wavelength are arranged opposite to each other.

2. The optical element according to Claim 1, a layer (b)

15 which is placed between the circular-polarization-type-reflection polarizers (a) and has a front retardation of substantially zero (in the normal direction) and a retardation of at least $\lambda/8$ with respect to incident light inclined by 30° relative to the normal direction.

20 3. The optical element according to Claim 1 or 2, wherein

the circular-polarization-type-reflection polarizer (a) comprises a cholesteric liquid crystal material.

4. The optical element according to any one of Claims 1 to

25 3, wherein the selective reflection wavelength of the at least two circular-polarization-type-reflection polarizers (a) are overlapped in the wavelength range of 550 nm±10 nm.

5. The optical element according to any one of Claims 1 to

30 4, wherein the retardation layer (b) is at least one selected from the

group consisting of:

a layer of a cholesteric liquid crystal phase having a selective reflection wavelength band in a range other than the visible light range and having a fixed planar alignment;

5 **a layer of a rod-like liquid crystal having a fixed homeotropic alignment state;**

a layer of a discotic liquid crystal having a fixed alignment state of a nematic phase or a columnar phase;

a layer of a biaxially-oriented polymer film;

10 **a layer of a negative uniaxial inorganic layered compound having an optical axis aligned and fixed in the normal direction of a plane; and**

a film produced with at least one polymer selected from the group consisting of polyamide, polyimide, polyester, poly(etherketone), poly(amide-imide), and poly(ester-imide).

20 **6. The optical element according to any one of Claims 1 to 5, further comprising a $\lambda/4$ plate which is placed on the circular-polarization-type-reflection polarizer (a) provided on a viewer side (liquid crystal side) such that transmitted light from a light source side can provide linearly polarized light.**

25 **7. The optical element according to Claim 6, further comprising a polarizing plate which is placed on the $\lambda/4$ plate side in such a manner that the direction of the transmission axis of the polarizing plate is parallel with the direction of the axis of the linearly polarized light to be transmitted from the light source side.**

30 **8. The optical element according to any one of Claims 1 to 7, wherein each layer is laminated with a transparent adhesive or**

pressure-sensitive adhesive.

**9. A condensing backlight system, comprising:
the optical element according to any one of Claims 1 to 8;**

5 and

at least a light source provided for the optical element.

**10. A liquid crystal display, comprising:
the condensing backlight system according to Claim 9; and
10 at least a liquid crystal cell provided for the system.**

**11. A liquid crystal display, comprising:
the liquid crystal display according to Claim 10; and
a diffusing plate which exhibits neither backward scattering
15 nor depolarization and is laminated on a viewer side of the liquid
crystal cell.**